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## WHAT IS CLAIMED IS:

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1. A modified therapeutic ordered peptide comprising a D-amino acid at the amino terminal end of the ordered amino acid motif  $[^1E^2Y^3Y^4K]_n$ , where n is from 2 to 6.

- 2. A formulation comprising the modified therapeutic ordered peptide of Claim 1 and a pharmaceutically acceptable carrier.
- 3. The modified therapeutic ordered peptide of claim 1 wherein n=3.
- 4. The modified therapeutic ordered peptide of Claim 3, wherein the D-amino acid is D-alanine.
- 5. The modified therapeutic ordered peptide of Claim 4, wherein the first amino acid of said motif is glutamic acid.
  - 6. A method of treating a demyelinating autoimmune disease, the method comprising:

administering to a patient suffering from said demyelinating autoimmune disease a pharmaceutical formulation comprising:

an effective dose of a modified therapeutic ordered peptide comprising a D-amino acid at the amino terminal end of the therapeutic ordered amino acid motif  $\begin{bmatrix} ^1 E^2 N^3 + K \end{bmatrix}_n$ , where n is from 2 to 6; and a pharmaceutically acceptable carrier;

wherein the clinical symptoms of said demyelinating autoimmune disease are reduced.

- 7. The method of Claim 6, wherein said demyelinating autoimmune 30 disease is multiple sclerosis.
  - 8. The method of Claim 6, wherein the D-amino acid at the amino terminal end of the modified therapeutic ordered amino acid motif is D-alanine.

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- 9. The method of Claim 8, wherein n = 3.
- 10. The method of Claim 9, wherein the first amino acid of said motif is glutamic acid.

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- 11. The method of Claim 10, wherein said administering comprises subcutaneous injection.
- 12. The method of Claim 10, wherein said administering is performed 10 daily.
  - 13. The method of Claim 10, wherein said patient suffering from said demyelinating autoimmune disease has the HLA-DR2 (DRB1\*1501) allele.